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ABSTRACT

The meaning of distance education and the two approaches to it that are commonly adapted are discussed. In most American usage, distance education is structured learning where the student and teacher are separated by space. A key distinction in two types of distance education is the definition of teacher. The teacher may be a person who instructs orally, or the teacher may not be a person but a course in which content is made available by other than the spoken word. The term distance education began to be used after 1970 to describe the purpose-built qualification-awarding industrial model institutions. At present, the world of distance education is a bimodal continuum in which one mode is this industrial model based on a predesigned learning environment using fairly mundane technology and the other (a more American approach) is a model that seeks to develop high technology to increase the size of an otherwise conventional classroom with an instructor at its core. Both modes can contribute to the democratization of access to knowledge and open learning. The variants of both modes hold the key to massive expansion in educational opportunity. Those who speak of a third generation of distance education are speaking of the use of electronic information technologies rather than models based on print and broadcasting. A chart presents the two models of distance education. (Contains 6 references.) (SLD)

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DISTANCE EDUCATION: TWO MODES OF LEARNING SEPARATED BY A COMMON LANGUAGE

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DISTANCE EDUCATION : TWO MODES OF LEARNING SEPARATED BY A COMMON LANGUAGE

1. PROLOGUE

The Eighth Annual Conference on Distance Teaching and Learning promised a feast of reportage, analysis and evaluation of what looked to a foreigner like a creative and expanding field of American distance education effort. It delivered papers describing programmes at higher and secondary level, professional training, academic staff development and training in distance education. It even began with a workshop for neophytes on the definitions, approaches and achievements of distance education. It was frustrating, therefore, to spend three days searching for discussion of what I would describe as distance education; and to find very little of it. Frustrating, but ultimately rewarding: because the experience has begun to clarify two mysteries of recent literature.

The two mysteries of argument about the discourse of distance education I shall characterise as Moore's (1989) two dimensional theory of independent study, and Nipper's (1989) perception that we are entering a third generation of distance education.

Perhaps the main problem I have with Moore's view of the elements of distance learning process is that it has an implicit instructor/student focus. That is, the concepts seem to follow from a model of educational process in which an instructor organises the learning. Dialogue tends to be assumed to be **with** him/her, separation is **from** him/her, individualisation is a **function** of the specificity of the student/instructor relationship. We find ourselves assuming that education process needs to be described with reference to the American ideal of Mark Hopkins on one end of the log and the student on the other. To use a linguistic device of the phenomenologists, education is what teachers 'do' with students. It is a mystery to me why we still assume this. But the Wisconsin conference suggests that Moore, in addressing principally an American audience, had accepted the need to describe distance education in terms of how it departs from this ideal.

The second mystery is why does Nipper see distance education to be entering a third generation? Is it possible to see it developing through stages? The link between Nipper's perspective and my understanding of American use of the term is Pelton's proposition that technology now makes possible a global electronic village of education. Bates's frustration with the simplifications of that image is similar to my own with the simplifications of American use of the term, distance education. Perhaps there is something to be learned from this.

2. THE DEFINITIONS OF DISTANCE EDUCATION

It is not my intention to review the complex attempts to define distance education that have been published since 1970. That would complicate my attempt to isolate a core reason for why American use of the term is so importantly different from those in the rest of the world.

We can begin with what I would propose to be the only definition that would be common to most American and all other usage : distance education is structured learning where student and teacher are separated by space. To most people in the field this is a hopelessly simplified concept. However, if we begin to add the additional elements that have developed in the literature we would exclude many of the American programmes reported at the conference. For example, separation in **time** is an element in all the major definitions (except that of the US Department of Education) but the majority of programmes described in the conference actually involved instructing in real time. It was only where 'correspondence' strategies were described that one saw something approaching the 'designed learning environment' approach that one takes to be axiomatic in distance education. For this reason, it is perhaps enlightening to consider an aspect of practice that has not featured in previous attempts to define distance education, but which will clarify American usage.

It is possible to describe two very different kinds of distance education by defining 'teacher' in two very different ways. It can be a person who 'instructs' orally, perhaps making use of one or more media of communication. Alternatively the 'teacher' is not a person at all. It is a designed (ideally multi-media) course in which syllabus content is made available to the student by media other than the spoken word. 'Support' for the student is given by a wide range of organised structures like the multi-media course itself; regionally based counselling; tutorial and study centre facilities; peer support groups; 'summer' school opportunities; and computer networking. But that support is **not** what 'teaches' the course. If the term is to be used at all, the course teaches the course.

This is a key element in understanding the very different uses to which the term distance education has been put. Failure to recognise it has caused arguments about how the term can be used. Particularly, it has been behind misunderstandings by newcomers to the field, government bodies, and major paymasters, about what can or cannot be achieved by distance education. It will be used in this paper as the crucial factor in describing two modes of distance education.

My starting point is that distance education is not a kind of institution. It is a 'catch-all' term to describe a collection of educational practices put together in the service of a basic aim - to avoid the space restrictions of traditional schooling (i.e. a teacher speaking syllabus to a small number of people gathered in one place). Any practice that fits this has some sort of right to call itself distance education.

The most serious dangers that follow from misuse of the term occur because of the great success of one particular collection of practices. This is the 'industrial model' open university (Mode A in Annex 1). Similar success tends to be expected of some **different collection** of practices, any one of which could reasonably claim a place in a distance education collection.

3. THE HISTORY OF DISTANCE EDUCATION

It is significant that many kinds of institution or programme now choose to call themselves distance education. We have had correspondence tuition, independent study, educational broadcasting, off-campus, extension, out-reach, and extra-mural programmes for many years. Increasingly, the institutions and people involved prefer to use the term distance education.

To discover why such a semantically ugly term should be thought so desirable, we need a small amount of history centred upon the industrial model. Tony Bates has produced the following potted version of Soren Nipper's description of three 'generations' of Distance Education :

1. Correspondence teaching/single media

In the beginning was correspondence teaching. This was characterised by little or no production of materials: rather students were given a reading list and a set of sample questions which correspondence tutors marked. With luck the student may have received some helpful comments from the tutor before sitting the same examination as full-time internal students. Such education was characterised in general by high drop-out.

Later, radio then television came along. Even though broadcasts were often accompanied by other media such as print and even linked to local face-to-face classes, these were ancillary activities driven by the media of the broadcasting agency rather than curriculum requirements. Broadcast-based courses were rarely linked to the acquisition of formal qualifications.

2. Multi-media distance education

Then in 1969 came the British Open University. For the first time a deliberately integrated multi-media approach was adopted to produce fully qualified graduates even though the predominant medium was and remains print.

The Open University was the first incarnation of what Peters (1983) has described as the 'industrial' model of distance education. This is characterised by the use of 'one-way' media (print, broadcasting, cassettes) with the 'two-way' communication still being provided by correspondence tutors, or face-to-face tutorials. Another characteristic of the industrial model is high fixed costs associated with developing courses and low variable costs in that the cost of each additional student is low once materials are created. Because of the high fixed costs large numbers of students are required to justify the costs. The Open University and many others created since are autonomous (or single-mode) in that they award their own qualifications and are 'dedicated' to distance education.

Dual-mode institutions, i.e. those that as well as teaching on-campus also offer courses at a distance, have had a harder struggle in providing courses based on the 'industrial' model, not only because of the problems of much smaller student

enrolments for distance courses than in the single-mode institutions but also because of the lower priority or status often given to distance education in these institutions. Despite - or perhaps because of - these difficulties dual-mode institutions have often been more ready to use some of the more interactive technologies as a central part of their distance teaching.

3. Tele-Education and 'Third Generation' Distance Education

Some (but not all) of what Pelton calls tele-education is encompassed by Nipper's 'third generation' of distance education. This is based on the use of electronic information technologies rather than the 'industrial model' which is based on print and broadcasting. Telecommunications and computers provide far greater facility for two-way communication. The result is much more opportunity for dialogue between student and teacher (and also between students). Typical technologies are computer conferencing or networking and audio- and video- conferencing (including audio-graphics).

Courses based on these technologies have relatively low fixed costs since they provide easy access to teachers without the need for high-cost development of materials. However, they have relatively high marginal costs since telecommunications and teacher costs increase in proportion to the number of students (if a high degree of interactivity is to be maintained). For this reason third generation technologies allow courses to be tailored to fit the needs of relatively small numbers.

The interesting feature of the 'third generation', defined in this way, is that in the main it did not grow out of the 'second generation'. Although there have been small 'high-tech' experiments in the industrial model institutions the wholesale use of sophisticated technology has not been found necessary or feasible. Perhaps the one exception that in several ways proves the rule is to be found in the University of the Air in Japan.

4. THE ANATOMY OF THE INDUSTRIAL MODEL

The term, Distance Education, began to be used after 1970 to describe the purpose-built qualification-awarding 'industrial model' institutions. These used a collection of practices, each of which was well-established in various ways either in traditional institutions, the correspondence colleges, industrial training, or in educational broadcasting. The industrial-model institutions were radically new, however, for four main reasons.

First, they were free-standing (later to be joined by dual-mode institutions). Second, the collection of practices was, in each case, a unique combination designed to replace **totally** the traditional institutional setting for education. Third, they tended to espouse a client-centred approach. The fourth characteristic has been described earlier as the key element in understanding how use of the term has developed since 1970. It is that the industrial model

made it possible to eliminate the 'traditional' role of the teacher as the autonomous, relatively spontaneous designer of activities for learners while simultaneously speaking syllabus to them. Instead, the syllabus was designed in minute detail, delivered by one or more media; and the learning experiences were carried on in an environment designed to use a range of media chosen to suit the needs of students, practical possibilities of society's infrastructure, the requirements of the subject matter, and the objectives of the course.

This industrial model has several advantages over the teacher model. One is that there are no theoretical restraints on the number of students who may take a course. This is because there is not a single teacher delivering the content of the course, teaching on the assignments and grading them, and designing and marking the examination. The obverse of this advantage is a responsibility to design the course well so that it can sustain the independent learner. Consequently, an important aspect of the industrial model institution is that the costs of course design and production are very high - perhaps 40-50% of the total costs of the institution. This produced large dividends in the form of high success rates for the students and opportunities to remove boundaries to access to learning because the teacher model is at its best with relatively homogenous groups of students. The well-designed course can provide for heterogeneity in both social behaviour and learning styles. A growing range of theory then developed around the need for, the responsibility to provide, and the advantages of, open access to learning.

Because of the success of these institutions, the idea that distance education could become a major factor in democratisation of access to knowledge and learning gathered strength through the 1970's and 80's worldwide. It became clear that high quality learning **could** be achieved at much lower unit cost than by the teacher-bound traditional system. The effect of this on national governments and supra-national bodies was profound. By 1990, it was no exaggeration to say that distance education was looked upon as the major hope for educational development in the third world and the only way to hold the line on educational costs in the first world. By 1992 it is looked upon as a useful element in salvaging and stabilising the collapsing economies and societies of the second (ex communist) world.

5. THE THIRD GENERATION

Perhaps we **are** now in the third generation: but even simplifying greatly, it is more complex than Nipper suggests. The success of the industrial model not only encouraged people who were using some element of it (educational broadcasting, say) to discover that they have always done distance education: it encouraged them to add some more of distance education's practices to those they had used. They began to become more educationally effective. At the same time there was a widespread adoption of distance education practices (all relatively low-tech) in a wide range of educational and industrial training settings.

Throughout the second generation, the US educational system remained impervious to the industrial model. At the same time, changes in demography (the diminution of the school-going age-cohorts) and in the economy (the growing failure to finance public spending except

by borrowing) encouraged traditional schools at secondary level and above to seek a wider clientele. What the conference seems to make clear is that technology has tended to be seen to be the solution. **But the teacher is still expected to instruct.** Technology is expected to offer the means by which real-time instruction can continue, but to larger numbers spatially separated. The listening classroom should be increased in size by providing an amplifier to the teacher's voice. Hence, there is a deepening search for technological facilitation of 'interaction' between instructor and instructed. Perhaps it is reasonable to describe this as distance education. The teacher teaches his/her class, some of whom are not physically present in the classroom, but interactive technology permits them to behave as if they are. The Office of Educational Research and Improvement, US Department of Education confirms this in its definition:-

> *the application of telecommunication and electronic devices which enable students and learners to receive instruction that originates from some distant location. Typically, the learner is given the capacity to interact with the instructor or programme directly, and given the opportunity to meet with the instructor on a periodic basis.*

Thus, in the US, what the rest of the world thinks of as educational technology is increasingly being described as distance education.

6. CONCLUSION: TWO DISTANCE EDUCATION FAMILIES?

We might conclude in 1992 that the world of distance education is a bi-modal continuum of educational practices (See Annex 1). It has one mode in which the industrial model is based upon pre-designed learning environments using fairly mundane technology (Mode A). This has developed a major variant. There has been a wide-ranging proliferation of the industrial method for designing 'learning environments' (courses) **but for use in any setting** (A1). One weakness of Peters' model as an illuminating device was that it did not make clear that the users of the 'products' were actually **in** the factory (i.e. students of the institution). Variant A1 uses the factory method to produce learning environments which are used outside it. So, there has been a great proliferation of 'open learning' using well-designed learning environments within commerce and industry as well as across educational institutions. These are not necessarily aiming for qualifications. Instead they may aim for performance appropriate to the workplace. Neither are they necessarily aiming for low unit cost. Here the goal is more likely to be increased access to better quality learning.

It could be argued that this increasing use of well-designed courses away from the institution that produced them is a better reason for claiming that we have moved into a third generation of distance education than that use of digital technology has become more widespread and sophisticated.

The American mode (Mode B) seeks to develop high technology to increase the size of an otherwise conventional classroom with the instructor at its core. The technological enhancement of the speaking instructor is only feasible in a rich society with massive school

provision and a social, technical and physical infrastructure that will sustain sophisticated use of digital technology. However, it seems reasonable to expect that it will become valuable in developing educational opportunity in countries other than the US and Japan. As electronic devices become cheaper and more useful in the process of education, perhaps they can be incorporated into the industrial model.

There is, however, a significant developing provision of designed courses which can be used in other settings (B1). This is becoming increasingly valuable, particularly in postgraduate and professional updating courses. It is also stimulating ideas, not only in the US, for a kind of electronic university of the world in which courses can be made available to all via satellite and a great deal of electronic capability.

Both Modes can contribute to the democratization of access to knowledge - to open learning. The industrial model has already done that massively; but its best effects are yet to come. That is, it offers the means by which access to knowledge and learning for all can become a reality. The traditional 'end-on' system of education must open out to become a system of permanent life-long opportunity. But it will only do this by liberating itself from the speaking teacher.

The conclusion that might be drawn most constructively from this analysis is that whilst the two modes have little in common (hence the frustration of foreigners when they discover use of technology described as distance education) their variants hold the key to massive expansion in educational opportunity. There is an overlapping of important characteristics between the two variants of the Modes. A1 has behind it the massive achievements of the industrial model. B1 looks to the prospects of technological developments. Particularly, the combination of the 'designed learning environment' with growing exploration of the consequences of digitalisation on access to them, is the future for open learning. Taken together, they are, perhaps good reason for speaking of a third generation of distance learning.

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THE BIMODAL DISTANCE EDUCATION CONTINUUM ***Annex 1***

		INDUSTRIAL MODEL		SPEAKING TEACHER USING TECHNOLOGY MODEL
CHARACTERISTICS	**MODE A**	**Variant A1**	**Variant B1**	**MODE B**
Core	a) Open entry in some cases	Required entry skills defined into course	As A1	Traditional entry
	b) Free standing institution Qualification granting	Irrelevant	As A1	✓
	c) Designed learning environments (Courses)	✓	✓	Teacher 'instructs'
	d) High and traditional exit performance standards	Exit performance specified by need of client	As A1	✓
Consequent requirements	a) Institutional regulations for flexibility	Client requirements	As A1	Regulations of the traditional institution
	b) Client orientated	Totally client orientated	As A1	Subject matter orientated
	c) Modular course structure	✓	✓	✓
	d) Designed structure of student support	✓	✓	'Classroom' is the major support
	e) Multi-media	✓	✓	✓
Results	a) Large numbers	Potentially	As A1	Not likely
	b) 'High' student success rate	✓	✓	✓
	c) Low unit costs	Not necessarily an object	As A1	Possibly